

REMARKS

OVERVIEW

Claims 7-10, 12-13 and 15 are pending in this application. Claim 7 has been amended. The present response is an earnest effort to place all claims in proper form for immediate allowance. Reconsideration and passage to issuance are therefore respectfully requested.

ISSUES UNDER 35 U.S.C. §102

Claim 7 has been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,474,305 to Szupillo. Szupillo does not anticipate because Szupillo discloses discontinuous thin film and not the thin film layer of claim 7. To further clarify, claim 7 has been amended to require a "continuous" thin film resistive layer instead of a "single" thin film resistive layer to make clear that a discontinuous thin film layer is not claimed in claim 7. Szupillo does not disclose a continuous thin film layer of the Applicant's claimed invention. Instead, Szupillo is specifically directed towards a discontinuous layer of film.

There is also another independent reason for patentability of claim 7. To the extent that the Examiner points to Figure 5 of Szupillo as anticipating, it must be considered that Figure 5 is not a completed resistor, but rather illustrates only an intermediary step in the process of making a resistor. Thus, Figure 5 cannot be considered a chip resistor as it is not complete. The deposition of tantalum pentoxide in Szupillo does not serve as an outer moisture barrier as required by claim 7, but rather serves as an insulator. This is clear from column 5, lines 23-27 which refer to a barrier layer 22 as "composed of a suitable electrical insulating material such as silicon dioxide, barium oxide, tantalum pentoxide, titanium dioxide or the like". Thus, Szupillo makes clear that there is an electrically insulating layer but does not treat this electrically

insulating layer as a moisture barrier. It is respectfully submitted that an intermediate electrically insulating layer is not an "outer moisture barrier" of a "chip resistor" as claimed. Therefore, it is respectfully submitted this rejection to claim 7 should be withdrawn for this reason as well.

ISSUES UNDER 35 U.S.C. § 103

Claims 7-10, 12-13 and 15 have been rejected under 35 U.S.C. § 103 as being obvious over Yamada in view of Copetti et al. or Sato (61-27264). It is noted that the Office Action of March 4, 2004, does not indicate a patent number for Yamada. The undersigned attorney left a voice mail message for the Examiner. The Examiner left a return voice mail message indicating that the patent number was 6,023,317. The undersigned attorney believes that the patent number for the Yamada et al. reference is 6,023,217. Therefore, it is respectfully requested that this Yamada patent be made of record. Also, it is requested that the period for response be reset should the Examiner not immediately issue a Notice of Allowance.

As the Examiner recognizes, Yamada et al. is directed towards a resistor, but does not disclose an outer moisture barrier of tantalum pentoxide (Office Action, page 2, numbered paragraph 4). Instead of a tantalum pentoxide moisture barrier layer, Yamada et al. discloses a protective layer 74 formed from glass or resin (Table 4). The protection layer of Yamada et al. is merely printed (column 11, lines 16-19).

Copetti teaches a module that includes a thin-film circuit. In Copetti, capacitors, or capacitors and resistors, or capacitors, resistors and inductors are provided next to the conductive track directly on a substrate of an insulating material (Abstract). Each of the disclosed embodiments of Copetti require both a dielectric layer and a protective layer. Further yet, each

embodiment requires "at least one contact hole passing through the module" (column 3, line 29). The module includes both a protective layer and dielectric layer.

Copetti does not disclose "the outer moisture barrier formed from deposition of tantalum oxide on the metal thin film resistive layer" as required by claim 7. Copetti is further deficient, because Copetti discloses having a contact hole through both the dielectric and protective layers to facilitate creation of electrical conduit between barriers and hence, due to such a hole, such a protective layer would not form an effective moisture barrier as required by claim 7.

Copetti discloses using tantalum pentoxide as one of a number of dielectrics because of its relative dielectric constant (column 2, lines 60-68). Copetti does not select the tantalum pentoxide for use as a moisture barrier, but simply as a dielectric. Moreover, it is clear that Copetti does not foresee using tantalum pentoxide as a moisture barrier because Copetti specifically discusses a separate protective layer to protect the adjacent layers from mechanical loads and corrosion by moisture (column 3, lines 1-4). Thus, although recognizing that tantalum pentoxide can be used as a dielectric, Copetti actually teaches away from the use of the tantalum pentoxide as a moisture barrier.

It is further observed that Copetti is directed towards a module and not a discrete component thin film resistor (a "chip resistor") which is a significant difference. Copetti's use of multiple components drives the design which includes multiple dielectrics to separate the components. Copetti's use of dielectrics such as tantalum pentoxide is as insulators between conductive layers and not as a moisture barrier. Therefore, there is no motivation or suggestion to combine Yamada with Copetti, where neither uses tantalum pentoxide as a moisture barrier.

Claim 13 specifically requires "a moisture barrier consisting of tantalum pentoxide directly overlaying and contacting the nickel-chromium alloy thin film layer for reducing failures

due to electrolytic corrosion under powered moisture conditions." Neither Yamada nor Copetti disclose this limitation. At best, Copetti discloses use of tantalum pentoxide as an insulator and discloses an outer moisture barrier of a different material. Thus, neither reference discloses using tantalum pentoxide as a moisture barrier in a resistor. Therefore, this rejection must be withdrawn.

Claim 15 requires "an outer moisture barrier consisting of tantalum pentoxide directly overlaying and contacting the passivation layer for reducing failures due to electrolytic corrosion under powered moisture conditions" and "the outer moisture barrier formed from deposition of tantalum oxide on the passivation layer". These limitations are not disclosed in either Yamada or Copetti. Therefore, these rejections must also be withdrawn.

The Examiner also combines Yamada with Sato. Sato is directed towards a thermal head and not a chip resistor. The Examiner's purported motivation or suggestion to combine these references is that "Sato discloses sputtering a tantalum oxide layer for the purpose of providing a protective layer so that it would have been obvious to employ a sputtered layer, to replace the protection layer of Yamada, for protection where the references disclose a protection layer or double protection layer for a resistor" (Office Action, page 3). The Examiner fails to acknowledge that a thermal head is not a chip resistor. The purpose of the abrasion resistant layer 6 of Sato is to stabilize printing quality by forming a protective layer before applying heat treatment. That is not the purpose for which the Examiner uses Sato. Therefore, it is unclear how the Examiner can combine these references, as there is no proper motivation or suggestion to combine. In particular, neither reference discloses using tantalum oxide as an outer moisture barrier or its suitability as such. Therefore, it is respectfully submitted that these rejections should also be withdrawn, as the Examiner has not established a *prima facie* case of obviousness.

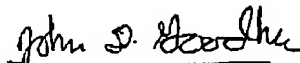
Instead, the Examiner applies hindsight reconstruction that eviscerates that which makes the invention patentable -- using tantalum pentoxide as an outer moisture barrier in a chip resistor.

It is submitted that the Examiner fails to properly consider the problem being solved by the Applicant's claimed invention as the Examiner does not properly consider that the tantalum oxide outer moisture barrier provides for "reducing failures due to electrolytic corrosion under powered moisture conditions" as required by claims 7, 13 and 15. "The problem solved by the invention is always relevant." In re Wright, 838 F.2d 1216, 6 U.S.P.Q.2d 1959, 1961 (Fed. Cir. 1988).

This is a request under the provision of 37 CFR § 1.136(a) to extend the period for filing a response in the above-identified application for one month from June 4, 2004 to July 4, 2004. Applicant is a large entity; therefore, please charge Deposit Account number 26-0084 in the amount of \$110.00 for one month to cover the cost of the extension. Any deficiency or overpayment should be charged or credited to Deposit Account 26-0084. However, the present response includes a request that the period for a response be reset. No other fees or extensions of time are believed due, however, please consider this a request to charge Deposit Account 26-0084 for any deficiencies.

Reconsideration and allowance is respectfully requested.

Respectfully submitted,



JOHN D. GOODHUE, Reg. No. 47,603
McKEE, VOORHEES & SEASE, P.L.C.
801 Grand Avenue, Suite 3200
Des Moines, Iowa 50309-2721
Phone No: (515) 288-3667
Fax No: (515) 288-1338
CUSTOMER NO: 22885

- pw -

Attorneys of Record